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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/455,574 Confirmation No. 5330
Appellant : Aalbertus Pieter Kroesbergen
Filed : December 6, 1999
Title : SUBSTRATE WITH SUPER-ABSORBENT
MATERIAL, METHOD FOR MANUFACTURE
THEREOF AND USE
Group Art Unit : 1725
Examiner : Jonathan J. Johnson
Customer No. : 28289

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REINSTATEMENT OF APPEAL

Sir:

Appellant (Applicant) hereby requests reinstatement of the Appeal in the above-captioned matter. In the Office Action dated October 20, 2004, the Examiner suggested that a reinstatement of the Appeal should be accompanied by a supplemental appeal brief. However, according to the recently amended Rules, Appellant believes that the appropriate submission to accompany this request for reinstatement of the Appeal is a Reply Brief. A Reply Brief is being submitted herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 20, 2004.

Helen Gerace

(Name of Person Mailing Paper)

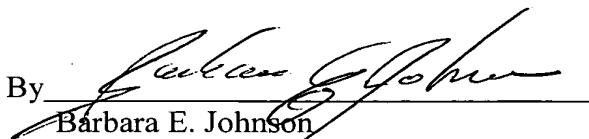
Helen Gerace December 20, 2004
Signature Date

The Commissioner for Patents and Trademarks is hereby authorized to charge any additional fees which may be required to Deposit Account No. 23-0650. Please refund any overpayments to Deposit Account No. 23-0650.

Respectfully submitted,

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Appellant's Reply Brief Under 37 C.F.R. § 41.41
Application No. 09/455,574
Reply to Office Action dated October 20, 2004
Paper Dated: December 20, 2004
Attorney Docket No. 3749-991620



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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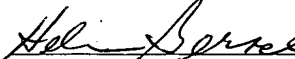
REPLY BRIEF UNDER 37 C.F.R. § 41.41

Sir:

The present paper represents a Reply Brief in response to an Office Action mailed on October 20, 2004 for the above-identified Appeal. Although the Office Action appears to set a response time of January 20, 2005, we are treating the October 20, 2004 Office Action as an Examiner's Answer under the new rules (i.e., 37 C.F.R. § 41.41), response to which is due by December 20, 2004. The Board is respectfully requested to consider this Reply Brief directed to new grounds of rejection raised in the Examiner's Answer.

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Helen Gerace
(Name of Person Mailing Paper)

 December 20, 2004
Signature Date

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Appellant's Reply Brief Under 37 C.F.R. § 41.41
Application No. 09/455,574
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I. REAL PARTY IN INTEREST

Stockhausen GmbH & Co. KG is the Assignee of the entire right, title, and interest to the above-identified application and, as such, is the real party in interest in this Appeal.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant, the Appellant's legal representative, or the Assignee of the above-identified application which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

III. STATUS OF CLAIMS

Claims 1-34, 37 and 51-60 have been canceled.

Claims 35, 36, 38-50 and 61-64 are pending.

Claims 1-2 (believed to be claims 35-36) stand rejected under 35 U.S.C. § 102(e) for anticipation by newly cited U.S. Patent No. 5,384,179 to Roe et al. (hereinafter "the Roe patent").

Claims 35, 36, 39, 41-45 and 47-49 stand rejected under 35 U.S.C. § 103(a) for obviousness over previously cited U.S. Patent No. 4,076,663 to Masuda et al. (hereinafter "the Masuda patent") in view of the Roe patent.

It appears that the Examiner has forgotten to include his reasons for rejecting claims 46, 50 and 61-64 in the Office Action.

The Examiner has now included claim 38 along with claims 40 and 41 as containing allowable subject matter and, therefore, these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 35, 36, 39, 41-50 and 61-64 are at issue in this Appeal.

Claims 35, 36, 38-50 and 61-64 are reproduced in Appendix A which is attached hereto.

IV. STATUS OF AMENDMENTS

No response after the final Office Action of February 2, 2004 has been submitted in this case. There were no claim changes after the final Office Action of February 2, 2004. The claims on appeal are the claims as amended by the Amendment of February 12, 2003, which are rejected in the Office Action (i.e., Examiner's Answer) of October 20, 2004.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present application as claimed in independent claim 35 is directed to a substrate comprising a super-absorbent material applied to the substrate, wherein the super-absorbent material is obtained by allowing suitable monomers to polymerize in the presence of a catalyst in order to obtain a pre-cross-linked polymer solution. Next, a cross-linking agent containing two functional groups which are capable, after thermal excitation, of reacting within at least ten minutes with carboxylate or carbonic acid functional groups is added to the polymer solution to obtain a pasty composition. Finally, the pasty composition is subsequently applied on or in the substrate in the form of discrete, substantially semi-spherical islets having a diameter of 10 μ to 1,000 μ and allowed to dry for one to three minutes at between 150°C and 200°C to form a swellable paste. Other additives, which are described on page 3, line 4 to page 4, line 11 of the present specification, can be introduced into the composition just before, simultaneously with, or after addition of the cross-linking agent. These additives can be used, for example, to change the viscosity of the composition, to improve the adhesion of the material to the substrate and/or to soften the super-absorbent material.

As discussed in the present application at page 6, line 7 to page 7, line 20, the absorbent capacity of the substrate not only depends on the quantity of super-absorbent material applied, but also on the form in which the super-absorbent material is applied to the substrate. It has been found that a pasty composition applied to the substrate in the form of discrete, substantially semi-spherical islets having a diameter between 10 μ and 1,000 μ results in a substantially higher absorbent capacity of the substrate. In a first Declaration of Dr. Harald R. Schmidt dated January 10, 2003 (previously submitted in August 4, 2004

Appeal Brief), test data was obtained on a substrate wherein absorbent material was applied to the substrate in a regular pattern of islets having a diameter of 250 μ as described in Example 1 (page 2). A swelling height of 1 mm was obtained which corresponds to the absorbent capacity of the substrate, which is the same value disclosed on page 7, lines 15-17 of the present specification. The first Declaration also compares the absorbency of a substrate having a full surface coated layer (i.e., no discrete particles) and a substrate having a regular pattern of islets with a diameter of about 1,300 μ , both of which fall outside the claimed 10 μ to 1000 μ islet range. The substrate with the full surface coated layer (i.e., Comparison Example 1) resulted in a swelling height of only 0.2 mm. The substrate with islets having a diameter of about 1,300 μ (i.e., Comparison Example 2) similarly resulted in a swelling height of only 0.25 mm.

In a second Declaration of Dr. Harald R. Schmidt dated November 24, 2003 (previously submitted in the August 4, 2004 Appeal Brief), additional test data was obtained on substrates, wherein absorbent material was applied to each of the substrates in a regular pattern of islets using a screen having a mesh width of 550 μ m and 355 μ m, respectively, which corresponds to a substrate with islets having a diameter of 550 μ and at least 350 μ , respectively. The substrate with the islets having a diameter of 350 μ resulted in a swelling height of 0.44 mm and the substrate with the islets having a diameter of 550 μ resulted in a swelling height of 0.60 mm. The Declarations thus corroborate that substrates having a layer of discrete islets within the diameter range of 10 μ to 1000 μ according to the claims demonstrate new and unexpectedly good results compared to substrates having a layer of islets outside the diameter range of 10 μ to 1000 μ . Also, see the graph entitled "Absorbency Data," previously submitted in August 4, 2004 Appeal Brief.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 35 and 36 stand rejected under 35 U.S.C. § 102(e) for anticipation by newly cited U.S. Patent No. 5,384,179 to Roe et al. (hereinafter "the Roe patent").

Claims 35, 36, 39, 41-45 and 47-49 stand rejected under 35 U.S.C. § 103(a) for obviousness over previously cited U.S. Patent No. 4,076,663 to Masuda et al. (hereinafter "the Masuda patent") in view of the Roe patent.

VII. ARGUMENTS

I. Rejection of claims 35 and 36 over the Roe patent

Claims 35 and 36 stand rejected under 35 U.S.C. § 102(e) for anticipation by the Roe patent for the reasons discussed on pages 3-4 of the October 20, 2004 Office Action. The Examiner asserts that the Roe patent teaches a super-absorbent material having monomers to polymerize in the presence of a catalyst, adding a cross-linking agent containing two functional groups which are capable after thermal excitation of reacting within at least ten minutes with carboxylate or carbonic acid functional groups to obtain a pasty composition, and subsequently allowing the composition to dry in the form of discrete, substantially spherical islets having a diameter of 10 μ to 1,000 μ . As discussed below, Appellant respectfully traverses the Examiner's rejection of claims 35 and 36 on the grounds that the cited prior art reference does not teach all of the limitations of the claims.

Independent claim 35 is directed to a substrate comprising a super-absorbent material applied to a substrate, wherein the super-absorbent material is obtained by allowing suitable monomers to polymerize in the presence of a catalyst in order to obtain a pre-cross-linked polymer solution. Next, a cross-linking agent containing two functional groups which are capable, after thermal excitation, of reacting within at least ten minutes of carboxylic or carbonic acid functional groups is added to the polymer solution to obtain a pasty composition. Finally, the pasty composition is subsequently applied on or in the substrate in the form of discrete, substantially semi-spherical islets having a diameter of 10 μ to 1,000 μ and allowed to dry for one to three minutes at between 150°C and 200°C to form a swellable paste. Claim 36 is directed to a substrate comprising a super-absorbent material applied to the substrate, wherein the material has a significantly enlarged surface area achieved by having the super-absorbent material in the form of a plurality of discrete, substantially semi-spherical islets having a diameter of 10 μ to 1,000 μ .

The Roe patent is directed to a particulate, absorbent polymer composition comprising interparticle crosslinked aggregates formed from precursor particles having a relatively small particle size for use in absorbent members, such as fibrous web structures, which can be incorporated into absorbent articles such as diapers, adult incontinence pads, sanitary napkins, and the like. See Abstract and column 1, lines 11-15. The precursor particles refer to the initial units used in forming the resultant particles of the polymeric

composition, including the aggregates (column 6, lines 1-8). The precursor particles can have any desired shape such as cubic, rod-like, polyhedral or spherical (column 5, lines 48-50) and can have a mass average particle size from about 100 microns to about 1500 microns in diameter or cross-section (column 6, lines 39-43). Interparticle crosslinked aggregates are the aggregate particles formed by joining together two or more previously independent precursor particles. The precursor particles are joined together using an interparticle crosslinking agent that reacts with the polymer material of the precursor particles to form crosslink bonds between the precursor particles that form the aggregate (column 6, lines 58-68). The resultant polymeric composition can have a mass average particle size ranging from about 25 to 50 percent greater than the mass average particle size of the precursor particles (column 19, lines 18-28). Fig. 16 of the Roe patent shows an absorbent product 1600 wherein an individual crosslinked aggregate 1610 is joined to a carrier 1620. Column 20, lines 18-20 of the Roe patent states that "it should be recognized that some of the precursor particles may dissociate themselves from the interparticle crosslinked aggregate." These interparticle crosslinked aggregates which preferably make up about 90% by weight of the polymeric composition (column 20, lines 1-3) are randomly-sized and irregularly-shaped (column 5, lines 56-57). The Roe patent does not teach or suggest a substrate (i.e., carrier 1620) having super-absorbent material in the form of discrete, substantially semi-spherical islets. Furthermore, *Webster's II New College Dictionary*, 1999, defines the word discrete as "1. Constituting a separate thing; distinct. 2. Made up of unconnected distinct parts." Therefore, the interparticle crosslinked aggregates of the Roe patent, which are formed by joining together two or more previously independent precursor particles, are not discrete units nor are they semi-spherical in shape according the claimed invention. Because the Roe patent does not teach each and every element in claim 35 or claim 36, the Appellant has met his burden under 35 U.S.C. § 102. MPEP 2131.

Even if the Examiner were to consider it obvious to modify the form (discrete and semi-spherical shape) of the super-absorbent material to obtain a substrate having predetermined absorbency properties, there is no motivation in the Roe patent to make this modification.

The motivation to modify the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the

claimed invention. The motivation must come from the prior art, and not from the applicant's specification. In *EWP Corp. v. Reliance Universal, Inc.*, 755 F.2d at 907, it states that "a reference must be considered for everything it teaches by the way of technology and is not limited to the particular invention it is describing and attempting to protect. On the issue of obviousness, the combined teachings of the prior art as a whole must be considered." By the same token, "[i]t is impermissible within the framework of § 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 353 F.2d 238, 241. As discussed in detail below, a fair reading of the Roe patent in its entirety would not lead the skilled artisan to use discrete, semi-spherical absorbent particles on a substrate.

It is understood that the form (discrete and semi-spherical) in which the super-absorbent material is applied to a substrate is important for the absorption properties of the substrate (page 6, lines 7-9 of the present specification). In fact, the Roe patent teaches away from an absorbent composition having discrete or semi-spherical particles. One of the objectives of the Roe patent is to provide a particulate, absorbent composition having a high rate of fluid uptake (i.e., swelling rate). See column 2, lines 24-26. In contrast to the swelling height which corresponds to absorbent capacity as in the present invention, the swelling rate measures the average rate of fluid uptake (i.e., time required for the composition to absorb fluid) (column 43, lines 12-17), which is dependent on surface area to mass ratio. The polymeric composition comprising interparticle crosslinked aggregates (Examples 1-7) have higher swelling rates and higher surface area to mass ratios (i.e., surface area) compared to an absorbent composition having nonaggregate particles (Comparative Example 1) as shown in Table 1, columns 55 and 56 of the Roe patent. Because the interparticle crosslinked aggregates have higher surface area to mass ratios than the nonaggregate particles of the same size (column 21, lines 60-66), the swelling rate of the interparticle crosslinked aggregates in Examples 1-7 are at least 50 to 495 percent greater than the swelling rate of the nonaggregate (discrete) particles in Comparative Example 1. Although the swelling rates are higher for the aggregate particles, the absorptive capacity of the nonaggregate particles in Comparative Example 1 are at least 19 to 37 percent greater than the absorptive capacity of the aggregate particles in Example 1-7. These results substantiate the fact that the form (i.e., discrete

particles) of the absorbent composition is an important factor that affects the absorbent properties of a substrate. Because the main objective of the Roe patent is to provide an absorbent composition having a high swelling rate, the Roe patent teaches away from compositions having nonaggregate (discrete) particles (i.e., low swelling rates) even though the absorptive capacity of the nonaggregate particles are higher than that of the aggregate particles.

The Roe patent also teaches away from an absorbent composition on a substrate in the shape of semi-spherical particles. In Comparative Example 1 of the Roe patent, absorbent (nonaggregate) particles are dried and pulverized with a hammer type crusher and sifted with a sieve (column 51, lines 11-16). These nonaggregate (i.e., precursor) particles used to make the crosslinked aggregates in Examples 1-7 are also made in accordance with Comparative Example 1. Therefore, both the nonaggregate particles and the precursor particles are all irregularly-shaped. As previously discussed, the surface area to mass ratio depends on the form (i.e., shape) of the particles, which also affects the absorbent properties of a substrate. Because all of the Examples of the Roe patent include particles made by pulverizing with a hammer type crusher, the Roe patent teaches away from particles having any specific shape, such as semi-spherical.

In view of the foregoing, there is no teaching, suggestion or motivation in the Roe patent to modify the form of the absorbent composition into discrete and semi-spherical shaped particles on a substrate without consulting Applicant's specification. Accordingly, Appellant believes that independent claims 35 and 36 are patentable over the Roe patent and are in condition for allowance.

II. Rejection of claims 35, 36, 39, 41-45 and 47-49 over the Masuda patent in view of the Roe patent.

Claims 35, 36, 39, 41-45 and 47-49 stand rejected under 35 U.S.C. § 103(a) for obviousness over the Masuda patent in view of the Roe patent for the reasons discussed on pages 4-5 of the October 20, 2004 Office Action. The Examiner asserts that the substrate described in the Masuda patent is identical to the substrate of the present invention, except for the substrate having super-absorbent material in the form of discrete, substantially semi-spherical islets having a diameter of 10 μ to 1,000 μ . The Examiner combines the Roe patent with the Masuda patent for the asserted teaching of semi-spherical particles of about 200

microns. Therefore, the Examiner contends that it would have been obvious to one of ordinary skill in the art to modify the composition of the Masuda patent and utilize the claimed size of the super-absorbent material as disclosed in the Roe patent in order to maximize absorbency. Appellant respectfully traverses the Examiner's rejection of the claims.

To establish a *prima facie* case of obviousness, three requirements must be satisfied. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. See *Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, a hindsight analysis is not allowed. See *Amgen, Inc. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. See *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

For the reasons discussed below, the Examiner has not met the requirements for establishing a *prima facie* case for obviousness because the resultant combination of the two references does not teach or suggest all of the limitations of the claims (i.e., discrete and substantially semi-spherical islets).

The Roe patent, as discussed above, does not teach or suggest a substrate having super-absorbent material in the form of discrete, substantially semi-spherical islets. The Masuda patent describes a highly water-absorbent resin produced by polymerizing cellulose with another monomer in the presence of a cross-linking agent and, optionally, adding a catalyst. The water-absorbent resin can be applied to various substrates by any known method, such as immersing (i.e., full surface coated layer) the substrate into an aqueous solution of the resin and subsequently dried. See column 6, lines 3-17. The Masuda patent discloses only a substrate having a full surface coated layer of absorbent material. The Examiner has also acknowledged that the Masuda patent does not specifically teach a substrate having super-absorbent material in the form of discrete, substantially semi-spherical

Appellant's Reply Brief Under 37 C.F.R. § 41.41
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islets having a diameter of 10 μ to 1,000 μ . Therefore, none of the cited prior art references teaches or suggests all of the limitations of the claims.

Because the Masuda patent and the Roe patent, either alone or in combination, do not teach or suggest a substrate having super-absorbent material in the form of discrete, substantially semi-spherical islets, withdrawal of the obviousness rejection of claims 35 and 36 and any claim dependent thereon may, thus, be seen to be in condition for allowance.

Claims 39, 41-50 and 61-64, which depend either directly or indirectly from independent claim 35, are also believed to be patentable over the Masuda patent and the Roe patent for the same reasons discussed above in connection with claim 35.

On page 2 of the October 20, 2004 Office Action, the Examiner has objected to the Abstract of the Disclosure for exceeding 150 words in length. We intend to shorten the Abstract at a later time after a decision is made by the Board of Patent Appeals and Interferences.

VIII. CONCLUSION

The claims define a unique way of improving the absorbency of a substrate by applying super-absorbent material in the form of a plurality of discrete, substantially semi-spherical islets with a diameter between 10 μ and 1,000 μ . In regard to the rejected claims, none of the cited prior art teaches or suggests absorbent material on a substrate in the form of micron size particles that are both discrete and substantially semi-spherical in shape. Therefore, reversal of all the Examiner's rejections and allowance of claims 35, 36, 38-50 and 61-64 are respectfully requested.

A check in the amount of \$500.00 is enclosed to cover the fee for filing the Reply Brief.

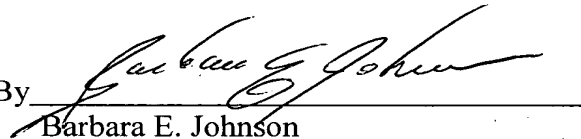
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Respectfully submitted,

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APPENDIX A

1-34. (Canceled)

35. (Previously Presented) A substrate comprising a super-absorbent material applied to the substrate, wherein the super-absorbent material is obtained by allowing suitable monomers to polymerize in the presence of a catalyst in order to obtain a pre-cross-linked polymer solution, adding a cross-linking agent containing two functional groups which are capable after thermal excitation of reacting within at least ten minutes with carboxylate or carbonic acid functional groups to the polymer solution to obtain a pasty composition, subsequently applying the composition on or in the substrate and allowing the applied composition to dry for one to three minutes at between 150°C and 200°C to form a swellable paste, and wherein the pasty composition is applied to the substrate in the form of discrete, substantially semi-spherical islets having a diameter of 10 μ to 1000 μ .

36. (Previously Presented) A substrate comprising a super-absorbent material applied to the substrate, wherein the material has a significantly enlarged surface area achieved by having the super-absorbent material in the form of a plurality of discrete, substantially semi-spherical islets with a diameter between 10 and 1000 μ .

37. (Canceled)

38. (Previously Presented) The substrate as claimed in claim 35, wherein the super-absorbent material is a foam.

39. (Previously Presented) The substrate as claimed in claim 35, wherein the pasty composition applied to the substrate is allowed to dry and cross-link.

40. (Previously Presented) The substrate as claimed in claim 39, further comprising adding a foaming agent to the pasty composition prior to applying the

composition to the substrate, wherein the composition is caused to foam at any time after addition of the foaming agent.

41. (Previously Presented) The substrate as claimed in claim 40, wherein the pasty composition further comprises at least one other additive chosen from agents for changing the viscosity of the composition, agents for improving the adhesion of the super-absorbent material to the substrate, agents for softening the super-absorbent material, and agents for making the composition conductive.

42. (Previously Presented) The substrate as claimed in claim 41, wherein the agents for changing the viscosity of the composition are acrylates, polyurethane or combinations thereof.

43. (Previously Presented) The substrate as claimed in claim 41, wherein the agents for improving the adhesion of the super-absorbent material to the substrate are polyamide, polyethylene, ethylene vinyl acetate or combinations thereof.

44. (Previously Presented) The substrate as claimed in claim 41, wherein the agents for softening the super-absorbent material are plasticizers which co-polymerize in the polymer.

45. (Previously Presented) The substrate as claimed in claim 35, wherein the cross-linking agent contains two functional groups which are capable after thermal excitation of reacting in a short time with carboxylate or carbonic acid functional groups.

46. (Previously Presented) The substrate as claimed in claim 35, wherein the composition comprises soot to make the composition conductive.

47. (Previously Presented) The substrate as claimed in claim 35, wherein the super-absorbent material is obtainable by preparing a polymer solution by dissolving a

polymer in an aqueous solvent, adding a cross-linking agent to the polymer solution to obtain a pasty composition, and applying the composition to the substrate.

48. (Previously Presented) The substrate as claimed in claim 35, wherein the super-absorbent material is selected from the group consisting of a cross-linked polyacrylate, a polyamide, or a combination thereof.

49. (Previously Presented) The substrate as claimed in claim 35, wherein the substrate is one of a fabric, a non-woven, a paper, a film, aluminum tape, or a fiber.

50. (Previously Presented) The substrate as claimed in claim 35, wherein the pasty composition consists of 95-99.9% by weight of an aqueous solution of pre-cross-linked poly(meth)acrylic acid and 0.1-5% by weight of a cross-linking agent.

51-60. (Canceled)

61. (Previously Presented) A cable comprising a sheathing material which is formed from the substrate as claimed in claim 35.

62. (Previously Presented) A hygiene product selected from the group consisting of a baby napkin, a sanitary towel, and an incontinence product, comprising the substrate as claimed in claim 35.

63. (Previously Presented) A packaging material comprising the substrate as claimed in claim 35.

64. (Previously Presented) An agricultural substrate comprising the substrate as claimed in claim 35.

DEC 23 2004

PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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FEE TRANSMITTAL
for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$ 500.00)**Complete if Known**

Application Number	09/455,574
Filing Date	December 6, 1999
First Named Inventor	Aalbertus Pieter Kroesbergen
Examiner Name	Jonathan J. Johnson
Art Unit	1725
Attorney Docket No.	3749-991620

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit
Account
Number

23-0650

Deposit
Account
Name

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$)**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims -20** = X =
 Independent Claims -3** = X =
 Multiple Dependent =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	86	2204	43	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2) (\$ -0-

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

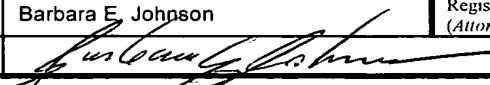
Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	\$500.00
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 500.00)**SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Barbara E. Johnson	Registration No. (Attorney/Agent)	31,198	Telephone	412-471-8815
Signature		Date	December 20, 2004		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.